

# Recumbent Cyclist

MAGAZINE

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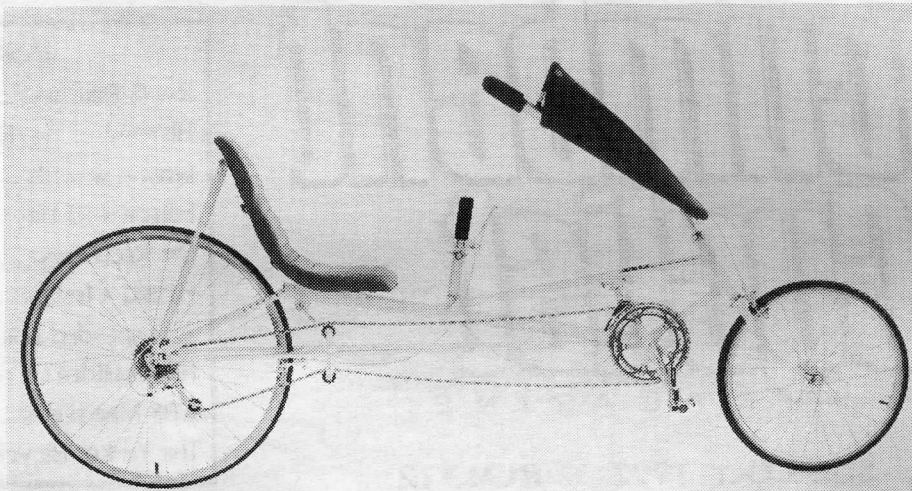
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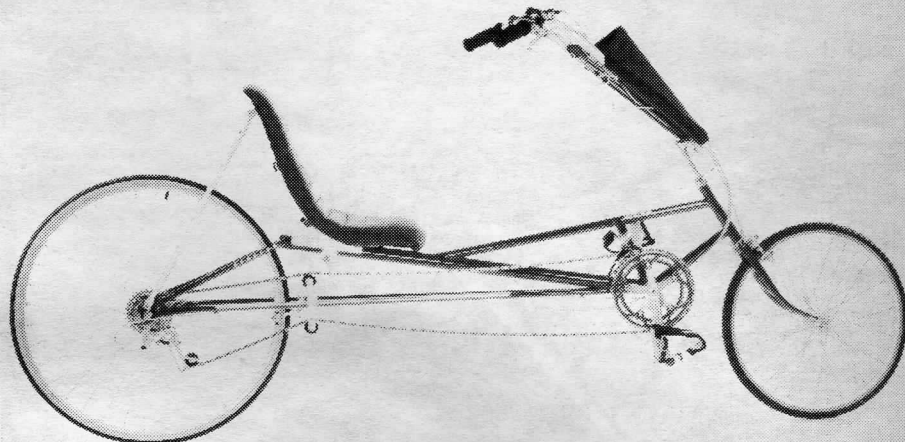


**THE RANS RECUMBENT BICYCLES**

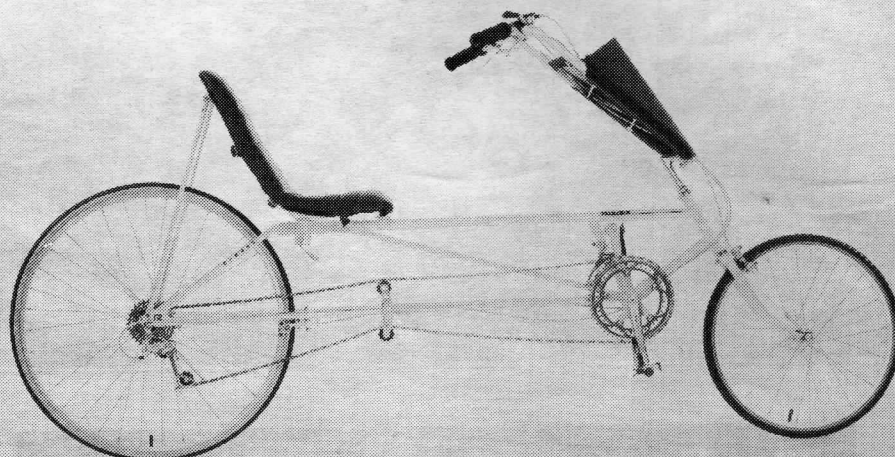




RANS STRATUS A



RANS STRATUS B



RANS NIMBUS

# THE RANS RECUMBENTS

by Robert J. Bryant

If you consider the original Rans Sailtrikes, this company has been in the recumbent business longer than any other. This interesting combination of bike and sailing vehicle was introduced in 1973, giving Rans a seven year jump on any competition. The first real recumbent model was introduced in 1982. During the early 1980's, many company's, including Rans, were getting their start in recumbents including Avatar, Hypercycle and Easy Racers.

## MARKETING PLANES & RECUMBENT BIKES

Rans does not exactly fit the mould of your traditional recumbent marketer. In comparison with their peers, Rans is now a rather large company. This can be both good and bad news for recumbent customers. The good is they have dependable production facilities that have been in place for some time. The bad part is that their airplane business keeps them so busy that the bike business has most definitely taken the back seat. It is also hard to get through to a "bike person" on the telephone. Once you get Randy or John Schlitter on the phone, they are very knowledgeable and good salesmen for their products. As most recumbent manufacturers seem to need a factory cheerleader (i.e. Gardner Martin-Easy Racers, Dick Ryan-Ryan Recumbents and Tim Brummer-Lightning Cycle Dynamics), Rans suffers in this department by not having someone assigned exclusively to the bike department. We can't help but think that this hurts recumbent sales for Rans. On the other hand, Rans offer the best brochure and literature package that we have seen.

## STRATUS-A, STRATUS-B & NIMBUS

The Rans' designs are original. The Stratus-A is an odd one, with its tiller bar and shift stub. The idea is good, trying to get the shift and brake lines shortened for better performance, as most LWB upright steering recumbents have VERY long cable runs, and if the proper precautions are not taken in design, they can be poor shifters and not index very well. We were not able to test the Stratus-A. Rans has this to say about the "A," "Everything is optimized to increase performance.....Consider the Stratus-A if you are wanting more speed and willing to

accept a high degree of challenge to master the bike."

The "B" is a much better idea, and a recumbent marketer's dream. This is the bike that most enthusiasts are quite taken with after reading the Rans color brochure. It is also the Rans best seller. Similar in looks to a Tour Easy, it is a long, low and sexy bike. Our test bike was an 18 speed pastel blue 40" Stratus-B with the (old design) idler and a Rans Fairing. The base price is \$1010. The price as tested would be \$1095-Rans direct. Customers purchasing through a bike dealer should anticipate assembly charges from \$50-\$100, depending on the shop. Rans had this to say about the Stratus-B, "It is a comfortable and stable feeling bike. ....Consider the Stratus-B when optimized frame design and handling are paramount."

The Nimbus really is the best design of the three. The seat is raised and moved back, the wheelbase is 4" shorter than the equivalent size Stratus-B. The bike is very user friendly, but not as performance oriented as the other Rans models. The shorter-long wheelbase is much more manageable and even easier to ride, but it does not share the low-sexy looks of the "B." We feel the Nimbus is the best model for most riders, but who can argue with those low-sexy look of the Stratus-B.



Don Cochran on his Stratus-B Cam-Tour 1990

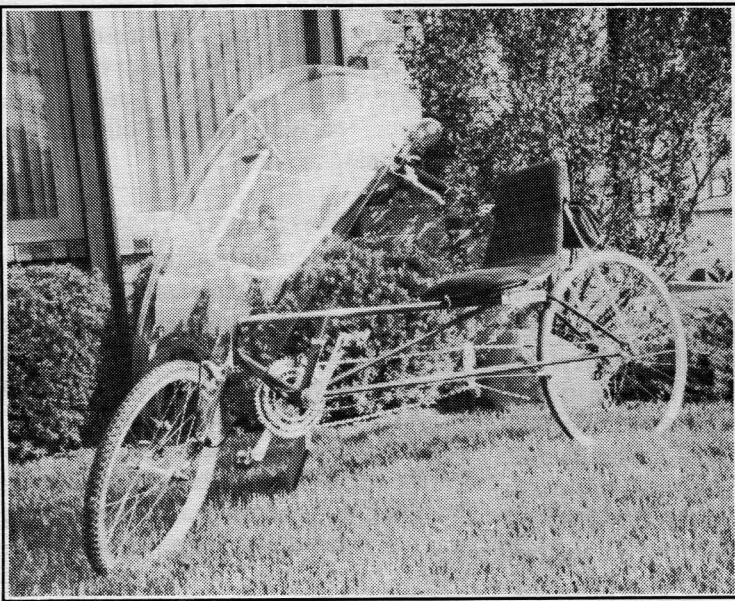
Rans had this to say about the Nimbus, "The Nimbus is our lightest and most user friendly bike....it was born for commuter work in the big city....Consider the Nimbus when lightness, handling and hill climbing are determining factors."

The base price on our 37" Nimbus is \$995. We got smart our second time around. We ordered the thicker aluminum bars, the closed cell foam seat pad and had Rans install the bottom bracket and press the head set. With shipping, the price as tested is \$1131. Again, expect an assembly charge from your dealer. The Rans bikes are labor intensive builds, so purchasing from or having a shop assemble the bike is an excellent idea. Rans is planning a pre-assembled bike program for the near future.

**RANS DESIGN THEORY:  
ROAD BUMPS AND SEAT POSITION**  
Rans has designed all of their bikes with the idea of shock absorption in mind. Riders of LWB recumbents are familiar with road shock felt from the rear wheel. When combined with the LWB recumbent's heavily loaded rear wheel this often makes for a firm ride. This characteristic really depends on the individual rider sensitivity and the types of terrain you ride on.

Rans has taken a strong stand on this idea and incorporates it into the whole bike, frame and design concept. The frame is designed to absorb shock. It flexes when you go over bumps and the handlebars flex. Even the thicker aluminum models that we had were still flexible and the seat is designed to flex. To quote Rans on this subject, "Thousands of miles of experience ride on our recumbent seat design.....A soft foam cushion covered with a nylon material buffers some of the road shocks, but the seat's unique mounting absorbs the brunt of the bumps. When the rider leans forward shifting weight to the front of the seat, the spring board action absorbs the shock resulting in a surprisingly smooth ride." It works just like they say it does. The Rans is the only recumbent we've ever tested with a design provision of this kind.





Del McCrillis' Rans Nimbus  
(Photo courtesy of Del McCrillis, Brown Deer, WI)

### RANS FRAMESETS

The Rans frames are nicely built. Since Rans is in the airplane business, the welders are aircraft certified. The frames are all TIG welded lugless 4130 chro-moly tubing. Overall, we would rate the welding quality of both of the Rans frames as good to very good. The dropouts are laser cut with the Rans "R" cut out of them—a nice touch. The forks are made specifically for the bikes and are traditional fork crown and blades with the ends chromed. The handlebars are a three piece set up that is screwed together. We opted for the thicker aluminum version, and we suggest that they make these standard. The handlebars offer a wide and comfortable hand position. The paint is especially nice. After the frames are welded, an epoxy primer is applied, followed by a double coat of acrylic enamel. The end result is among the finest in the business. We had both a light blue and green test bikes. Current colors are Electric Green, Pastel Blue, Ferrari Red and Hi-Tech Gray. Custom paint is available from \$50.

"Z" six-speed on our Stratus-B, and a 13-30, six-speed on our Nimbus; the latter is what is stated on the brochure and works better. The crankset on our "B" was a mid-line SunTour XCE 28/38/48. On our Nimbus an entry level Sugino 28/38/48 was substituted for the Sakae FLC 32/42/52 in the brochure listing. The Nimbus crank was our least favorite component on the bike. It is an unattractive Sugino model that we'd never heard of. Looks aside, both worked very well and we actually liked the lower gearing of the substituted cranks on our test bikes. The pedals are Sakae road platform pedals. These are better than what comes on most of our RCM test bikes and they come with nice toe clips and straps.

### WHEELS

These are standard issue for recumbents costing less than \$1200. They are a nice box section Arai alloy rim built on alloy Q.R. hubs. The sizes are 27" X 1-1/4" rear and a 20" X 1-3/8" front. This is very good size

WHEELBASES:	33"	37"	40"	WEIGHTS (can vary with size)
STRATUS A & B:	—	67.25"	70.25"	29.90 pounds
NIMBUS	59"	63"	66"	29.25 pounds

### COMPONENTS

Both of our test bikes had similar components and for the most part we were satisfied with the component selections. The brakes were excellent Q.R. Dia Compe polished alloy side pulls and braking was very good. These

mix. The 27" is a readily available (in the USA). The front is the same as what comes on a Linear, but wider than what comes on a Tour Easy. The 1-3/8" size is a better choice as it will take both the 1-3/8" width lower pressure touring tires or the IRC Roadlite

brakes were found on both of our Rans models. Cantilevers are available as an option, but we were very happy with the side pulls. The derailleurs and shifters are (old) Shimano DEORE XT\*. The XT components were not the current issue, as they were six-speed, but where else can you get XT on a bike that retails for \$1000. The freewheel was a Shimano 12-26

EX 100psi performance tire. For recreational riding the stock wheelset is fine. For any kind of long distance riding or heavy urban commuting we would recommend a hand-built set of wheels, such as what comes on their upgraded Deore XT model. Overall we give the Rans a very good rating for component quality based at this price point. \*Rans offers a full 21 speed Deore XT gruppo component package for all models. Base price as of our test was \$1495.

### GEARING

Gearing is never a problem on a LWB with a 27" rear wheel. Our Stratus-B had a gear range of 29-108, and our Nimbus had a range of 25-100. Both can be modified easily by any bike shop.

### CHAIN IDLER

The biggest complaint amongst RCM readers about their Rans bikes was the idler. The Rans frame design makes an idler necessary, not so much to idle the lower chain, but to keep the upper chain off the chainstays. The old model idler was aluminum with derailleur pulley wheels on each end. The idler slipped on the frame and the chain would frequently jump off the idler pulleys.

We were very disappointed with this idler and first of all took it off, but this causes the chain to noisily drag on the chain stays. We then reinstalled it, paying careful attention as to placement and followed the fit-modification directions, this helped some. We then complained to Rans and within 60 days they supplied us with another bike with a new idler that was braze-on mounted to the frame—to make sure it wouldn't slip from the chain torque. The new idler had a beefier frame and did not have the derailleur pulley wheels. To replace the pulley's, the new idler had plastic hose tubing wrapped with some special tape and placed horizontally across. The chain then drags across this plastic hose. Rans also supplies several extra hose tubing sections for replacement. The new idler is a drastic improvement, but we'd still like to see a sealed bearing roller of some sort.

### ACCESSORIES

Rans does not offer a rack adapter or a provision for a kickstand. A Blackburn MTB or Cross rack would fit easily using the stock mounting parts along with some Blackburn plastic coated "C" clamps to fit on the seat support tubes. (This is the way a



Tour Easy rack mounts.) As for a kickstand, the one that we can figure would work is a cheap steel axle mounted type. These do not work as well with Q.R. hubs as they do with bolt on. We never did find a satisfactory solution for a kickstand. If anyone has, please let us know.

**RANS FAIRING**

The Rans fairings are a great idea, they make for a nice shelf for your lunch, tools,

the closed cells, does not compress as much. The closed cell foam does not offer much cushy comfort, but makes for a rather firm feeling seat. John Schlitter of Rans says it's all personal preference, and the closed cell becomes more comfortable the more you ride it. RCM Washington D.C. Correspondent, Mark Colliton, rode both and liked the standard foam much better. Our recommendation is to order both and try them out; however, seat assembly can also

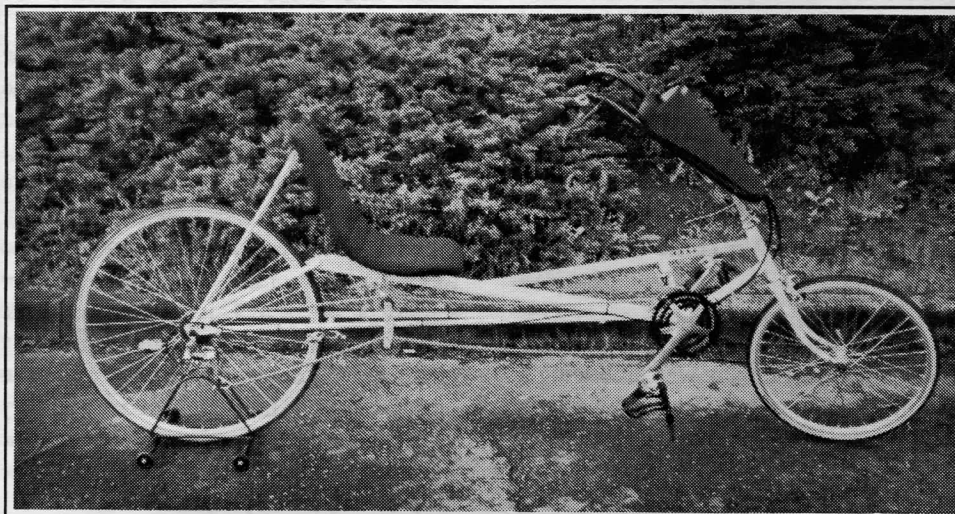
the front edge of the seat to get it to spring back. Randy Schlitter mentioned that a new seat was in the works.

The seat mounting system is ingenious and simple. It provides fairly quick seat adjustments. An upside down "U" shaped piece of aluminum fits over the round top tube and acts as the seat slider. Two inverted "L" shaped aluminum mounts connected to the bottom of the seat hold the seat to the slider. Seat angle and leg length adjustments are totally adjustable.

**RANS CRITIQUES**

Rans has a page in their brochure called, "Which Rans Recumbent is right for you." If you are considering a Rans read that page carefully. We found the descriptions to be right on. We liked the Stratus-B and Nimbus, but would pass on the Stratus-A, even though the idea of shorter cable runs makes sense. We like the aesthetics of the Stratus-B. We found the Nimbus easier to handle at low to medium speeds. It would make a great recreational/ commuter bike and was our favorite of the two, mainly for its original design and shorter more manageable wheelbase. The Stratus-B is faster, lower, and handles better for fast cruising. All Rans bikes handle nicely, track straight and have a minimum tiller effect in the steering. We compliment Rans on the user-friendliness of their designs.

The idea of having many parts of the bike flex for shock absorption takes some getting used to, especially if you come from riding a LWB bike with a much stiffer frame. I began to think stiffness was the norm, and when the initial Rans tests began, I thought the bike was way too flexible. But after testing two Rans bikes, I feel that the design idea most definitely has merit, and Rans has accomplished what they set out to do. The flexibility raised concerns about frame



1991 Stratus B  
(Staff Photo)

waterbottle or sample RCM brochures. They also cover all of the cable housing. Randy Schlitter believes that the Rans fairing is more effective than a Super Zipper, which will also fit all Rans models (as long as you order the "T" brackets and lower fork mounts). We liked the Rans fairings, and we are positive that Randy has more aerodynamic knowledge than our staff, but we are also big fans of Super Zipper (Zip Design). On the other hand, a Super Zipper for a Rans bike is nearly \$250, and the Rans fairing is only \$39.

There are braze-on cable stops on the frame, but there are no braze-on water bottle mounts or any provisions at all for mounting a water bottle. We would suggest a center handlebar mount like a Tour Easy, or dual cages with bolt on clamps mounted on either side of the bars. A Rans fairing mounted CamelBak (see Recumbent News) may also work.

**SEAT**

The Rans seat is a flexible fiberglass shell with a foam insert and a cloth cover. There are two types of foam available, the standard piece that is 2" thick, and the new closed-cell type that is less than half that, but due to

be difficult. Rans will assemble the seat for a minor charge.

Overall, we feel the seat has promise, but in its current form, could use some work. Our readers also gave it a mixed review. Some liked it, others did not. When compared with other seats similar in design we found it not as comfortable in its present form, however, we have never ridden a recumbent that had a seat designed to flex. We believe that there are ways of improving the seat. The easiest way would be to take it to an upholstery shop. We have also heard of other conversions. Correspondent, Mark Colliton mentioned that Gene Lemle, of Lightning Cycle, has modified one of his seats to fit. Due to the seat-flex, the front edge of the seat occasionally rubs the frame's top tube causing paint chips, especially on our Nimbus. Readers wrote in to say that they have mounted foam rubber door stops and the ends of rubber mallets under



Stratus B on tour  
(Photo courtesy of David Lewis, Dallas TX)

fatigue. Randy Schlitter assured me that they have had no problems along these lines. He said the only TIG'ed frame failure was from a rider jumping a 3' retaining wall. To back up their claims, Rans believes that these frames will last and they come with a LIFETIME WARRANTY. This was enough assurance for us.

Rans definitely is on the right track with the Nimbus and Stratus-B. All of the criticisms that we've made of the Rans bikes could easily be overcome. When recumbents do go mass market, the design may be something like the Rans Stratus-B or Nimbus. Why? The upright steering is familiar to riders of conventional bikes and the Nimbus has that shorter more manageable wheelbase and Rans offers a good quality bike at a fair price. We can only imagine what would happen if Rans were to devote more of their time & attention to the recumbent bicycle side of their business.

For more information, contact RANS, 1104 E. HWY 40 BY-PASS, HAYS, KS, 67601, (913)625-6346

## HISTORY OF THE RANS COMPANY

by Randy Schlitter

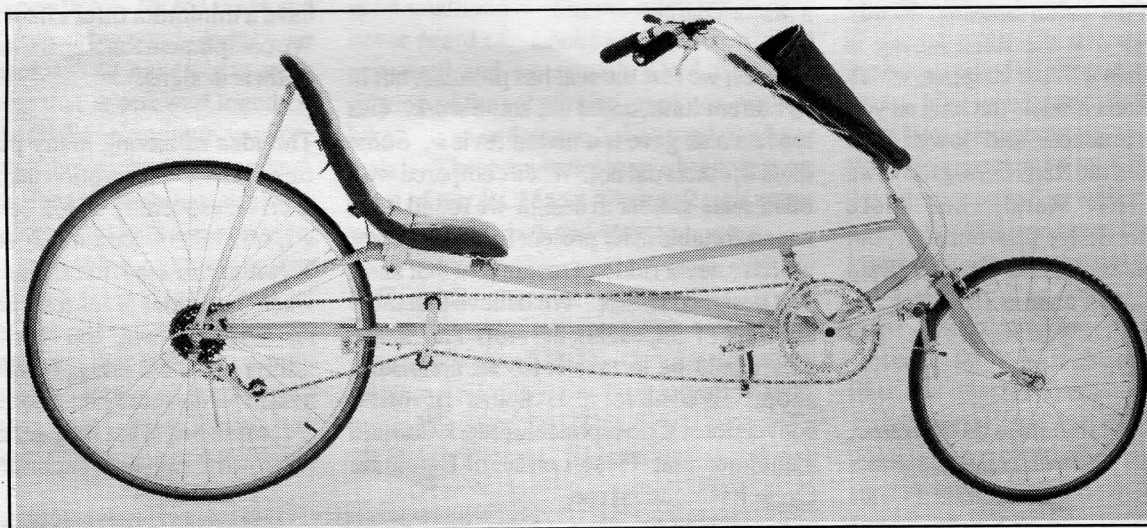
In 1973 while attending aircraft mechanic school in Wichita, Kansas, Randy Schlitter, the founder of Rans, Inc. became intrigued with the idea of recumbent bicycle design. Using aircraft construction methods, Randy crafted together the first of a series of man and sail powered three wheelers. These three-wheeled two place machines could be pedaled or sailed. by the broad interpretation of the law they were considered bicycles. The art of "road sailing" was born. Crazy as it may have seemed to see a sail zooming down the road, it was fairly fast and practical. Average speeds were 45 mph. In fact, a few short years later a couple of pioneering souls sailed from coast to coast using to Rans Windhawks.

By 1976 Rans had a patent on the Sailtrike. The fledgling company was producing and selling a complete line of Sailtrikes worldwide. From the Sailtrike evolved a line of landsailers, which proved much more successful in the marketplace.

In September of 1982 production began on a line of recumbent bicycles. These bikes differed from the original Sailtrikes in the fact that there was no sail power and only two wheels. The years of selling Sailtrikes and landsailers paid off. The recumbent bikes were a success from the start.

From the bicycles grew the Coyote Ultralight Aircraft project. Development began in 1982, with the prototypes first flight in March of 1983.

With a successful aircraft in production the recumbent bike has also benefitted. As the labor force and dollar volumes grew, so did the level of fit and finish. Rans recumbents always had excellent quality but now there was room to upgrade components and refine the designs further. The recumbents continue to evolve and remain compatible with the aircraft production. This is no accident since the materials and manufacture are nearly identical. Bikes and planes may appear an odd combination until one reflects the history of the airplane. Remember, the first airplane was built in the back of a Dayton Ohio bike shop by two avid cyclists.



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## AN INTERVIEW WITH RANDY SCHLITTER

**RCM- CAN YOU TELL US ABOUT THE NEW RANS SEAT?**

RANS: The new seat is a "Tension Field" design, which is a fancy way of saying tight as a drum. The seat will feature a frame with a sub base of fabric stretched very tightly across. The twist is how we incorporate the foam upholstery. (Ed. note: Rans did not indicate when the new seat would be available.)

**RCM-WHATEVER HAPPENED TO THE STEEL PARTS VERSION FROM SEVERAL YEARS AGO? CAN YOU BUILD A \$699 BIKE?**

RANS: No.

**RCM-ARE YOU ANTICIPATING ANY PRICE INCREASES?**

RANS: Yes, January 1993.

**RCM-IS THE NIMBUS FRAME STIFF ENOUGH WITHOUT A VERTICAL SUPPORT TUBE BETWEEN THE SEAT AND CHAINS STAY AREAS?**

RANS: Yes, because it is a "definite" structure.

**RCM-CAN YOU EXPLAIN**

**"DEFINITE" AND "INDEFINITE" STRUCTURES FOR THE RCM READERS (...AND EDITORS)?**

RANS: The Stratus is designed around what an engineer would call an indefinite structure. This means the tubes do not intersect in pure triangles. The main triangle on the Stratus frame is not actually a true triangle. The large diameter tube used on the frames allow a rigid, but flexible structure. We have stiffness in the "chain vector" but flex in the "road shock vector."

**RCM-WILL THE NEW IDLER RETROFIT TO OLDER RANS BIKES?**

RANS: Yes, the idler will retrofit and is available now.

**RCM-DO YOU THINK THE ADDED IDLER FRICTION WILL SLOW THE BIKES DOWN?**

RANS: No.

**RCM-ARE THERE ANY PLANS FOR A SEALED IDLER WHEEL?**

RANS: Maybe.

**RCM-WHAT PERCENTAGE OF**

**SPEED ADVANTAGE DOES THE RANS FAIRING MAKE?**

RANS: 5%.

**RCM-IS IT BETTER THAN A SUPER ZZIPPER**

RANS: Yes.

**RCM-GIVEN YOUR AIRCRAFT KNOWLEDGE, DO YOU THINK A TAIL-FAIRING WOULD HELP ON OUR BIKE?**

RANS: Tail fairings are a waste. The speed range we deal in offers little benefit. More important is the way we punch the hole in the air, not how we fill it.

**RCM-WHY DOES THE NIMBUS CLIMB HILLS BETTER?**

RANS: The Nimbus or any other recumbent will climb better if the ride is in a more vertical position. The Stratus is faster flat out. The hill climbing difference is almost not noticed unless you are a very avid recumbent rider.

**RCM-WHAT MAKES THE RANS BETTER THAN THE COMPETITION?**

RANS: Value/ Design/ Quality.

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## RCM INFORMATION

The Recumbent Cyclist Magazine is dedicated to promoting recumbent bicycles and providing and encouraging communications between HPV enthusiasts, dealers and commercial manufacturers of recumbent bicycles.

**SUBSCRIPTION INFO:** The Recumbent Cyclist is the official publication of the Recumbent Bicycle Club of America and is published five to six times per year. To subscribe to the Recumbent Cyclist, please send \$25 (First Class Mail-USA), \$20 Bulk Rate (USA) and \$30 world wide & Canada (USA FUNDS). The First class subscription will get you your issue 2-4 weeks earlier than the standard rate. The club patch is also available from the RBCA office for \$3.00 CLOSEOUT. Back issues #2-#11 are \$4 each (add \$.50 ea. Rush First Class service. (For Canadian back issue orders add 25%, Worldwide Air add 50%.)

**NEWSLETTER SUBMISSIONS:** We want your photo's, letters, stories and recumbent information for publication. Send a story/article about your bike and please don't forget a picture. Print your name on the back of anything sent to the RC office so we can credit the source. If you can send your submission on computer disc, we use an Apple Macintosh (Microsoft Works 2.) that will read IBM 3.5" discs in ASCII format only. If you don't have a computer, we will take it in a letter form or whatever. Please send submissions to: **NEW ADDRESS: R.B.C.A./ Recumbent Cyclist \* 17650-B6-140th Ave. SE, Ste. 341\* Renton, WA 98058.**

**NEW RECUMBENT HOTLINE: (206) 630-7200.**

**WANTED:** Information, photo's and experiences on front wheel drive recumbents. Your homebuilt recumbent stories. The RCM office is currently experiencing a photo-shortage. Please send your B/W or color shots for of recumbents or related subjects for use in RCM.

**FUTURE RCM'S:** Here are road tests we have planned for the future: ReBike, Trice, QuadraPed, Infinity and maybe some new surprise bike news and tests. Always the latest in recumbent news and technology.

## RCM T-SHIRTS AND HATS

We are considering offering a custom design "Recumbent Cyclist Prototype" T-shirt and possibly hats. The T-shirts are currently being designed using our new logo. The hats would also incorporate the new logo designed by Mark Colliton. We will keep you posted.

**QUESTION OF THE MONTH:** If The Recumbent Cyclist/R.B.C.A. became a Non-Profit Corporation, where dues & contributions became tax deductible, would there be more monetary contributions to the R.B.C.A.'s work in promoting recumbent bicycles? We are currently considering this for 1993.

**NEW RCM/ R.B.C.A. INFO-PAK:** This special package includes a copy of RCM#8 "1992 Buyers Guide", our 12 pages of recumbent propaganda including the US News article reprint and the new 4-page manufacturers list. The price is \$3 bulk or \$5 First Class. If you would like a copy of the 2-page US News reprint, please send \$1 to cover postage & handling.

**DEVOTED PRODUCTION STAFF:** Editor & Publisher: Robert J. Bryant, Business Manager: Marilyn J. McKee-Bryant, Production Assistant: Jeanene Smith, Graphic Services & printing by Desktop Publishing & Printing in beautiful downtown Renton, Washington.

The Recumbent cyclist Magazine strives for accuracy in its articles and honesty in its advertisements, but the publisher and editors assume no responsibility for injuries or loss incurred by anyone utilizing the information in the articles or responding to the ads.

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**COVER:** The Rans Nimbus. (Photo courtesy of George Prince, Jefferson, LA  
The new cover graphics were done by Mark Colliton, Kensington Design, Kensington, MD.

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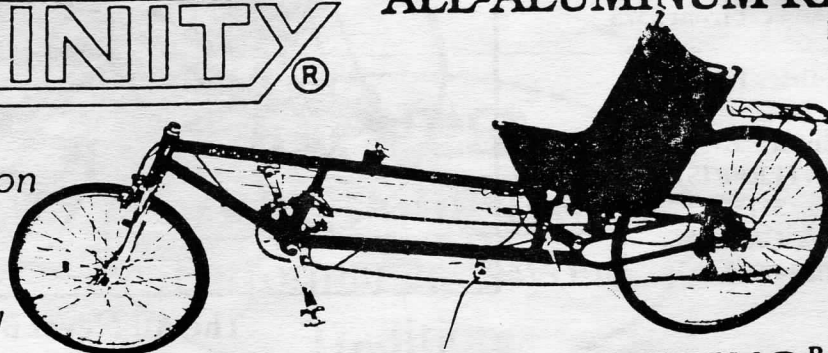
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**EDITORIAL LICENSE: THE SUMMER OF THE RECUMBENT BICYCLE**

by Robert J. Bryant

Wow! What a summer! I would have to say that in the four short years that I have been involved in recumbent bicycles, more action, publicity and media attention has happened this year more than any other, or all of them put together. Here is a list of events:

- \*MARCH 1992            The Easy Racer Road Test in the March 1992 issue of **BICYCLING** Magazine.
- \*MARCH 1992            Introduction of the first mass produced recumbent, the ReBike.
- \*MAY 1992              **THE AMERICAN BICYCLIST** devotes a full issue to recumbents. (trade magazine—dealers & manufacturers only)
- \*JULY 1992             **US NEWS & WORLD REPORT** does a two page article on the emerging interest in recumbent bicycles. US News has a circulation of 2.2 Million. Probably 5 to 10 times that number read the magazine as it is found in doctors offices and business around the country. This is the best publicity recumbent cycling has ever received.

These are the major events. Minor ones include RCM breaking 1000 paid readership. With the US News article we have sent out nearly 600 Info-Paks with sample issues. We also ran our first ad in Bicycling which paid for itself! We have been interviewed for **Washington Post, L.A. Times, Vancouver Sun** and several other newspapers along with mention and recumbent publicity in most every bicycle trade magazine. Another interesting note is that Steve Roberts was on the "Donohue" TV show in late July with "Behemoth." The sad part was the subject of commercially available recumbent bicycles never came up. Oh yes, remember the ReBike? They have proved so popular that they sold-out their complete '92 stock through late October.

Another interesting note, we received a sample issue of "Interbike World Market Report," an industry newsletter. On the back page this topic was discussed by Jay Townley,

**"Recumbents....Wave of the Future?.....**The article made it clear that recumbents and their owners are outside the mainstream of bicycle sales and distribution....." This article makes it clear that the popularity of recumbents is growing, and yet interested consumers are not directed to their local independent bicycle dealer-but are instead advised to seek out clubs and enthusiasts who have the greatest influence on this emerging market segment."

I wouldn't exactly say that we are totally outside the bicycle industry. We at RCM have been barraging these guys with recumbent info for the last two years. It's only after US News reports what we've been telling them, that they take note. Whether bicycle dealers actually take note will be another story. The article is summed up in these words by Mr. Townley:

"We wring our hands and wonder where the next mountain bike is going to come from, but we allow a piece of future business, and the enthusiasts who will have the greatest influence on its potential growth, to do business outside of our channel of trade!"

We agree with Mr. Townley and take it one step further. If the bicycle industry does not wake up and get onboard, QUICKLY, the recumbent enthusiasts WILL BE the dealers & manufacturers. Mainstream bike dealers & manufacturers will miss the boat completely. If they don't believe me, they should look around and see that it is happening already.

**RCM NEWS:** There will be only 5 RCM issues for 1992. We are gearing up for 6 and maybe even more in '93. The smaller issues are easier to put together, so we'll see. The hot news is that due to popular demand, we have gone back to offset printing on white paper. Expect RCM#13 the first of December.

**NEWS FROM THE HOMEFRONT:** The first reason we are late with RCM#12 is the US News article and the stacks of mail coming in. The second reason is a little guy named Daniel James Bryant who was born to proud parents Robert & Marilyn on Monday July 6, 1992. RCM CREW/family members are doing fine. Daughter Amy was ripping through the neighborhood on her composite three wheeled FWD trike (Big Wheel) when dad noticed she was cruising way too fast down the hills and had no brakes. So, I figured it was time for a new bike. I called Gardner Martin, who said that he wouldn't have time to build a mini-Tour Easy until Winter. So, I went to the local Schwinn dealer and bought her a pink Schwinn Pixie (semi-semi-semi recumbent-old Stingray design). She does O.K., but continually falls off due to the high C.G. that conventional bicycles enjoy. So, I asked 3-1/2 year old Amy if she wanted

dad to cut it up for a recumbent, she said YES— smart kid. So, I won't have to write about what I am doing with my summer vacation in my next column, because you now know.



Amy Bryant on her 3-wheel FWD Composite trike  
(Photo courtesy of Robert Como)

## E-Z RECUMBENT TOURIST

Dear Robert,

I love your magazine. Your bike evaluations are fair, I appreciate the special articles like the one on intermediate gearing, and I love being able to see so many variations on them in one place. It's nice to read articles written by people who appreciate recumbents and are intrigued by the subtleties in the variety of designs.

I've built two Easy Racers from Gardner Martin's plans, modified them with sling seats, and done fairly extensive touring on the first one I built, the "Loaded Warrior." It has travelled from Minneapolis, Minnesota to Seattle and from Minnesota to Maine. I wouldn't tour on anything but a recumbent. It's not as fast up a mountain and my quads probably hurt more at the end of the day than they would on a conventional bike, but my back feels great, my shoulders, arms and neck feel terrific and my butt's not sore. I can see scenery as we ride along, and downhill I pass almost everyone.

As a tourer, I think bicycle weight is an over-rated issue. Fully loaded for touring, I have no idea what the bike weighs nor would it matter if I did. We take what's important to remain fairly self sufficient. Not knowing what might go wrong, I take a lot of tools. We take food, tubes, an extra tire; even the compulsory bottle of bubbles (to see which way the wind is blowing). An extra couple of pounds goes completely unnoticed.

## LETTERS TO THE EDITOR

Knowing what a bike actually weighs would only make me tired. Sometimes weight is a trade off. After my trip to the Northwest, I built a tandem wheel for the "Load Warrior" to solve a problem that I was having with broken rear wheel spokes. The 48 spoke wheel weighs more, but it solved the problem. Very few people who buy bikes are racers, and frankly Greg Lemond could ride circles around me if he was on a junker with one pedal and the chain guard scraping. If you want to take a pound or two off the bike, try eating a bit less. It works, and you save money.

Sincerely,  
Steve Sussman  
Vashon Island, WA.

Note: Steve is currently working on his third recumbent, a shorter "Load Warrior" with two 20" wheels for a bike trip to New Zealand next winter.

*E.Z. words to tour by.—Ed.*

### EDITOR IN TROUBLE (AGAIN) OVER RECUMBENT SPEED & PERFORMANCE CLAIMS

Dear Mr. Bryant,

I enjoy your magazine and I appreciate your enthusiasm for recumbent bicycles, but it seems unnecessary for you and your contributors to stretch the facts to prove recumbent superiority over regular bicycles.

In "Fact & Fiction About Climbing Hills On Recumbent Bicycles" (RCM#11), where are the facts?

1) "You can use more muscles to pedal with, not just your quads."

Regardless of the bike, pedaling uses more than just quads. In addition to your legs, on a regular bike, you can use your upper body and leverage your body weight. I'd like to see a recumbent keep up with the polka-dot jersey on Alpe d' Huez.

2) "You can stay aerobic,....."

It's true that standing riders may "go anaerobic," but only because they are using more muscle groups to support that level of effort. The diamond-frame rider can choose to get up out to the saddle or sit and spin. Recumbent riders don't have a monopoly on the use of low gears.

3) "You will have much less aerodynamic drag....."

True, but aerodynamic drag is not very significant below 15 mph and is of little consequence below 10 mph.

Finally....I am not knocking recumbents by any means, I just think you should try to avoid the hyperbole and pseudo-science that is used to promote them. I believe the recumbent versus the diamond-frame bicycle comparison, assuming an average recreational rider, can be distilled to a few



simple statements.

1) A recumbent is usually more comfortable. The semi-reclined seating position with full back support eliminates most rider complaints of sore back, shoulders, arms, wrists or neck and numb crotch or hands, although some recumbent riders experience numb feet.

2) A recumbent can attain higher top, cruising, and touring speeds on flat and downhill roads and against headwinds because of the reduced aerodynamic drag in the recumbent position.

3) A recumbent is usually slower uphill because it is heavier and restricts climbing technique to "sit & spin."

4) A recumbent may be slower when used for in-town commuting. Its heavier weight and lack of an out-of-the-saddle, high power riding position make it slower accelerating from city stops, unless aerodynamic efficiency will not be realized.

Sincerely,  
Jon Bokelman  
Las Vegas, NM.

*An added benefit of reading RCM is that each reader/ rider is entitled to his/her own opinions. The speed issue is a hotly debated one, depending on the bike, rider, course etc. etc. The stretching of facts has never been our intent. Keep in mind that every rider is different and there are many variables to the speed issue, if we listed all of them, it could fill volumes of RCMs. RCM's Recommended cure: take one commute through town on a Lightning F-40 , or Gold Rush Replica, it may change your opinions....—Ed.*

## DR. RECUMBENT

The RCM Crew attempts to answer your recumbent type questions

### INFINITY SPEED TIPS, EXPERIMENTS & PROJECTS

Dear Doctor,

I bought a recumbent for two reasons: 1) because I was having a numbing problem.... 2) All info I read said they were faster than upright. I took care of the first problem.... There lies the fact that I cannot get the promised speed out of the bike.

So please help me out,  
Matt in Monee, IL.

*Matt, the Infinity is a good bike to start with because the price is right, it's light weight and the square tubes make for easy mounting of fairings or other aerodynamic devices. Here are some ideas for you: 1) Get some*

*light, fast wheels with some skinny tires. A narrow 27" (or 700c) and an IRC Roadlite EX 20" X 1-1/8" front tire. 2) Get a fairing. Zzip Design makes a readily available fairing for your bike. Another fairing made for the Infinity is the Breeze Eeze which is made specifically for your Infinity. These bolt on to the top tube and are an aluminum frame with a nylon cover and lexan windscreen. Breeze Eeze has not been very active as of late, but we did hear from one Infinity rider who bought one this summer. C) Get some clipless pedals. They will improve your spin and put more power to the pedals. D) At the recent IHPSC an Infinity was seen that had two 27" wheels and upright steering. He also had an adapter to replace the 27" with a suspended 20" front wheel. He raced it in*

*the 200 meter event We asked him which was faster. He said the 27"! Interesting. We once had an idea of adapting a 24" rear wheel with a drum brake (to solve brake reach problems with a 24" wheel) to an Infinity, thus relaxing the head tube angle (Infinity has a much more upright head tube angle than upright steer recumbents) to provide a more suitable upright steering situation. We do feel that the upright steering would be more aerodynamic. Keep in mind that this is all experimental stuff and has not been tried by our staff. Zzip Design: PO Box 14, Davenport, CA. 95017. Ph#(408)425-8650. Breeze Eeze: PO Box 611, Big Rapids, MI 49307, Ph# (616)796-9153. —The Doctor*

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## SEARCH FOR AN AERO-BAG

Dear Doctor,

Can you help me find a bag that will fit behind the seat of my P-38, resting on the carrier so it would double as a rear fairing. Sincerely,  
Steve in Israel

Steve, We have seen a beautiful aero pannier/bag set up built by Debbie Bower for her and her husband Grant's BowerBikes. Sadly, these are not (yet?) available for sale (we already tried....). Roots in the Sky builds an aero trunk for the Presto that has a composite base and a Lycra cover. Here are some ideas: 1) Lightning makes some gorgeous aero panniers. This along with a rack bag (mounted on top of the rack) will help. You may want to go as far as having your bike updated to an F-40? 2) See RCM#3; CSPC: The Poor Man's Composite. This outlines how to build simple body panels out of fibreglassed cardboard. Nick Matoni (formerly of CA., now living in Japan) built one successfully for his LB-90 SWB. 3) At DaVinci days in Corvallis Oregon, we saw an ingenious method of making full body's. Larry Plotkin of Eco Cycles sells Trailmate trikes with electric motor kits on them. He

fabricated a golf-cart like soft body with windows out of sail material and by using several fiberglass bicycle flag poles & holders. These are very inexpensive at your local bike shop. The fiberglass poles are small diameter, lightweight and can be bent into shape by bowing them. You can use the standard flag pole holder connectors, or manufacturer your own. The soft body can be made of Lycra with Velcro to hold it on. Given these ideas, you should be able to fabricate your own aero tail section.—The Doctor

H<sup>2</sup>O QUEST

DEAR DOCTOR,

How can I carry more water on my Easy Racer Tour Easy?

Robert Mills in Washington

Robert,

Easy Racers offer a single waterbottle cage standard and dual cages as an option. They are mounted on both sides of the rise section of the handlebars. This works great. If you are thrifty, you can get all three cages. If you are adapting new cages to your used Tour Easy, you can use cages with bolt-on clamps to mount the two cages on your bars. A new

hi-tech gizmo brought to the Doctor's attention are the Camelbak water bag. These are insulated bags that hold 70 oz. of water. If you load them with ice, and then fill up with water, they will stay cold all day. We would guess that you could adapt on in front of the handlebars, behind the Super Zipper Fairing. Camelbak's are approx. \$50. FasTrak Systems manufactures the Camelbak. You can reach them at (915)335-0494. Tell them you heard about it from The Doctor.

Also, a low tech solution, is a 64 oz. soda bottle with a long plastic hose mounted to the top. This was seen on a George Georgiev racing vehicle at IHPSC. Another lo-tech solution, is to mount waterbottle cages on your upright bars, close to the top, then using these tall "Sports Bottles" with the long straws. This solution was seen on Tom Traylor's "Critical Mass II."

PLEASE ADDRESS YOUR QUESTIONS TO:

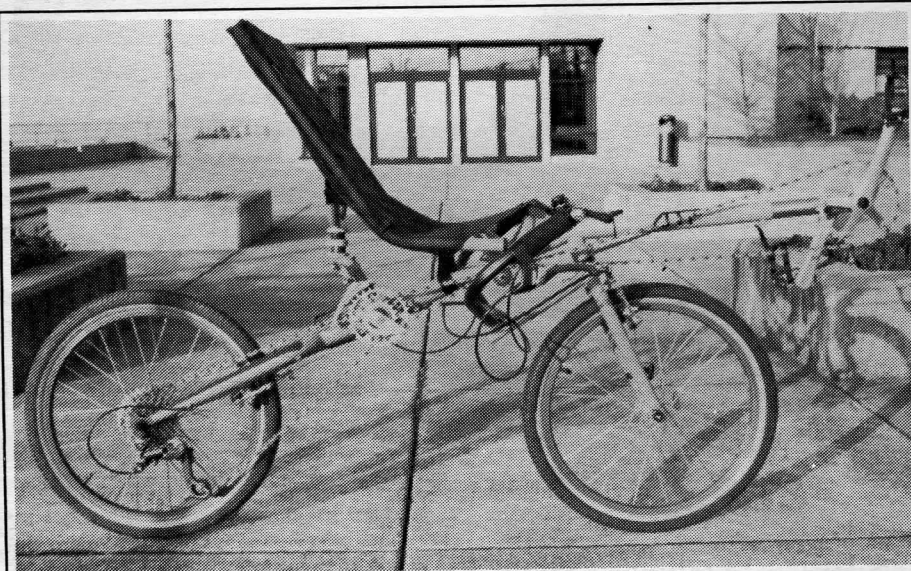
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## FITTING FENDERS TO YOUR RECUMBENT

by Robert J. Bryant

amongst recumbent riders who want to ride year-round is how & where do you get fenders. Some recumbents are easier to fit than others and some recumbents need them more than others. Your first move should be to call the manufacturer and then the dealer from which you bought your bike. If you have no luck, try one of our ideas below.

**IDEA#1**

Best Bet! Call Angle Lake Cyclery in Seattle (WA) and order a custom made set of German Esge fenders that come in 26"/20" or 20"/20" sizes. These 55mm fenders are manufactured to fit the Counterpoint Opus Tandem and Presto recumbent. The current price is \$55 or \$40 in kit form + shipping. The kit requires you to drill holes, place & rivet fittings. These come in silver or black.

**IDEA#2**

Steel Fenders: The easiest most affordable way to outfit your bike with fenders is to go with inexpensive chrome-steel fenders made for cruisers and tourist bikes. These come in 16", 20", 24" and 26" sizes. Most bicycle shops can order these for you.

**IDEA#3**

Another off the shelf solution is to buy a standard set of road or MTB fenders in the size of your rear wheel and use one for the rear wheel. For the front wheel, use a Weinmann (alloy) or Wald (steel) one size fits all front "shorty" fender. CycloPedia sells the alloy shorty for \$9.50 @ pair or \$5 @ single. You can then fabricate and rivet a splash guard from an old innertube or similar rubber. These fenders can also be found in many bike shops or from CycloPedia and will work for 20" front wheels.

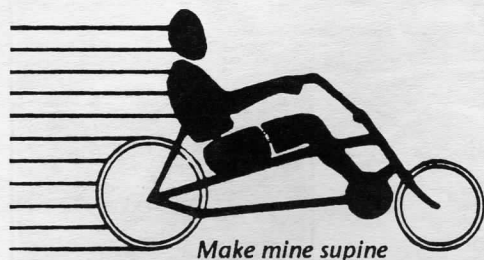
**IDEA#4**

Mt. Zefal makes a 24" set of fenders in the 65mm width; you can stress this into place using pressure from the strut bolts. You then buy a set of 26" fenders to use for your rear wheel. This is definitely the most expensive way to do it.

**IDEA#5**

Go down to your local bike shop and purchase some 55mm Esge square section fenders in the 26" size. The ones we have found also

work for 700c & 27". We can use the rear fender stock. On the front we do a "heat & bend" trick. To start, take your front wheel with tire in place and your new fender into the kitchen of your home. Turn the stove element to Medium-medium high heat. Be sure that you hold the fender 6"-12" above the heat. Make small bends every 3" or so inches. To make the ever so slight bends, hold the fender in the bent position and let the heat make the bend. CAUTION: never let the plastic fenders get melt-hot or they will stretch & ripple. You do this until the fender is bent to fit your 20" front wheel. You may need to put more of a bend in the midpoint. Be very careful with this method, relax, take your time. We have found that the Esge's work very nicely. Zefals tend to melt/ ripple easier and we were losing 1 out of 5 front fenders. Depending on the brand of recumbent you own, you may need to shorten the front fender by cutting 2"-4" off the bottom. A good sharp set of garden pruning shears works beautifully. The Esge square section fenders are easier to cut than the round ones. You also need to shorten the fender struts. This takes some muscle and a



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# Tour Easy

by Easy Racers, Inc.

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sharp set of wire cutters or a similar tool. If you are willing to take the risk, this can be the most affordable way to get a set of nice looking fenders. Esge fenders sell for \$20-\$30. Note: Keep plastic fenders away from microwave ovens.

#### APPLICATION HINTS:

**TOUR EASY:** Installing fenders is difficult on this bike. The fork rake makes it difficult on the front. The rear is also tough because of the sometimes tight fit of the rear wheel behind the seat and the placement of the rear brake. The Tour Easy needs fenders less than other recumbents. A Blackburn MTN rack and the shell type seat act as a rear fender and you can buy lexan flaps that zip-tie to the front down tube and Zzipper fairing. This is available from Easy Racers. If you still want fenders for this bike, our recommendation is to buy a 27" silver Esge

set for the rear and a Weinmann "shorty" for the front. You can add a mud flap if necessary.

**RYAN/ TAILWIND/ INFINITY/ DH:** Fender mounting is slightly easier on these bikes. Use a mixed set from Angle Lake or "heat & bend." You will need to use a thin piece of aluminum to connect the rear fender bottom to the frame, but Dick Ryan has a braze on bolt already in place for fender mounting.

**LINEAR:** We have fit many Linears with fenders. It does make folding more difficult. The easiest way is to use a "shorty" in front and a Blackburn MTN rack (MTN-2 or Cross) rack with a plate across the top. When adapting a full size 27" fender to the rear, we connect the fender by using Blackburn rack mounting hardware (be

creative) and drilling holes to mount the lower rear fender mount in the rack adapter that runs between the rack & frame. (You must have a rack to mount fender this way.) You then cut the fender off 4" below the rear stays and when you bolt to the rack adapter and use the upright fender mounting struts for the top mounts, the fender stays just fine. Be careful not to over tighten/ strip the threads on the Linear eyelets.

**PRESTO/ ATP R-20:** The easiest way is to order an Angle Lake Cycle/Presto 20" fender set.

**LAI D BACK/ LIGHTNING:** Lightning Cycle Dynamics offers Esge fender sets in their sales brochure. Angle Lake Cyclery sells Moulton 17" fenders.

## LIGHTNING CYCLE DYNAMICS INTRODUCES A NEW SUSPENDED FORK

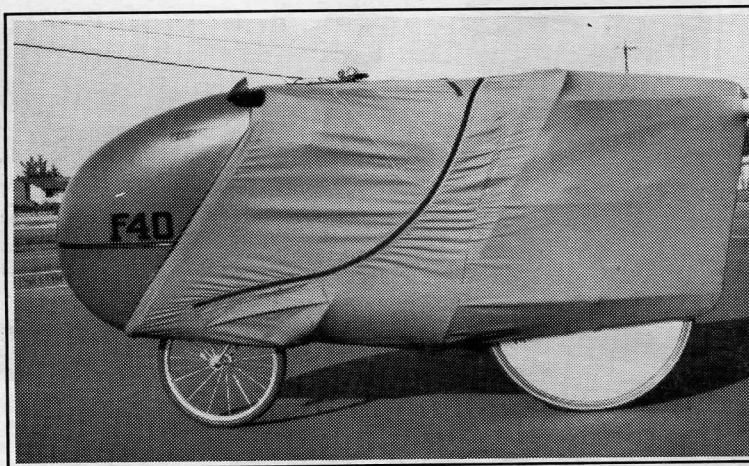
Due to popular demand, the S-1 suspended fork is now available. This unit is similar to the non-suspended unit, with the addition of an internal coil spring, telescoping slider, and torque link assembly. It will retrofit onto any Lightning P-38 frame.

Lightning has been testing the prototype for six months and according to Tim Brummer, it is said to work fairly well. Tim also said, "that it doesn't do much for the small bumps, but takes the edge off of the big ones. Because addition of the fork changes the steering geometry thus the handling. The steering response is said to be even quicker at low to medium speeds, and about the same at high speeds. For F-40 owners, crosswinds are much more noticeable, the biggest reason is said to be that more of the front

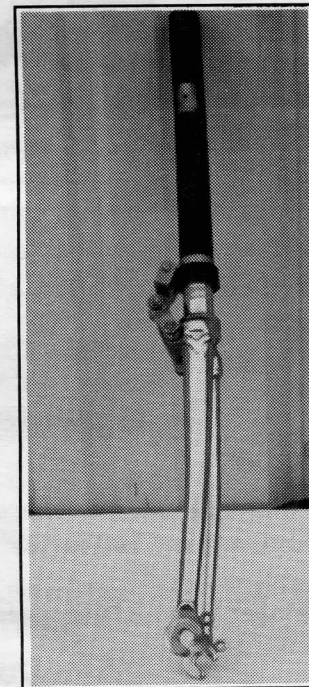
wheel disc sticks out of the fairing."

The weight of the new fork is 28 ounces, or 8 ounces more than the stock fork. The fork is made of 4130 chro-moly, aluminum and the spring is a silicon bronze coil.

Cost for the new unit is \$300, or \$250 with exchange of your old fork in good condition. For more information contact Lightning Cycle Dynamics, Lompoc, CA. (805)736-0700.



The \$4000 Lightning F-40 with suspended fork  
(Photo courtesy of Lightning)



The Lightning Fork  
(Photo courtesy of Lightning)

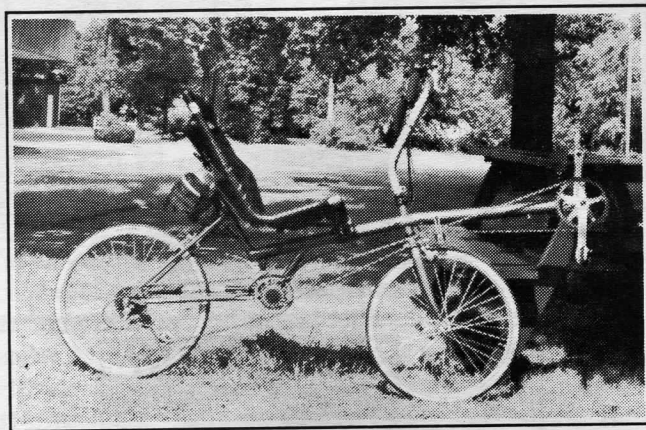


## HOMEBUILDERS CORNER

By Tom Beuligmann, Mt. Carmel, IL.

My home-building endeavor really began a couple of years ago when I purchased my second recumbent, an Infinity LWB. Being tall and long legged, I was somewhat limited on my choice of bikes due to fit. With help from Don Barry of Infinity, I was able to get a lengthened frame made to my specifications..

After some pleasurable years of riding, I began to wonder if there were any recumbents made that offered the comfort of the Infinity with the speed of my racing bike (a 23 lb. torture rack). My friends would drop me on every hill and even on the flats when I rode my LWB. It seems as though most of the bike makers claim extra speed through aerodynamics. I had proven to myself that this just wasn't the case for me. Knowing that I couldn't fit on most factory bikes, I decided to try my hand at building a recumbent. After studying all the currently available designs, I reasoned that a SWB

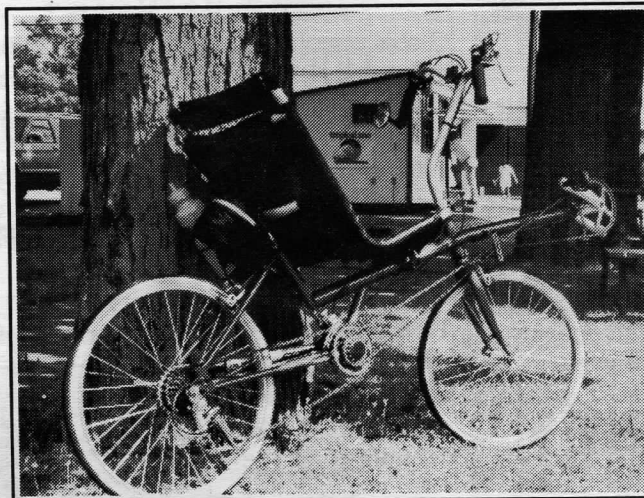


Tom Beuligmann's SWB 2-Foot Ahead  
(Photo courtesy of Tom Beuligmann)

upright steer model should be the ticket.

I started my project with a cheap lugged Taiwanese frame, some 1-3/4" muffler-Moly (auto exhaust pipe-non-aluminized) and some 1" 6061-T6 aluminum tubing. After using up a stack of graph paper, I settled on a geometry and dimensions and went to work. Using a variety of metal and cutting hole saws, I was able to mitre the pipes with very little filing. I down-sized the rear triangle of the existing bike frame and cut away most of the front triangle. I then had a muffler shop bend the 1-3/4" tube to four degrees. I then installed it on the front, intersecting the seat tube just above

the old bottom bracket. A new bottom bracket shell was welded on at the front and



Tom Beuligmann's SWB 2-Foot Ahead  
(Photo courtesy of Tom Beuligmann)

the old shell was used for an intermediate freewheel mount. The bike's seat was an off the shelf Infinity model, modified to fit the new bike and to allow tilt and slide adjustment.

Two 20" inch wheels were used for continuity and aesthetics, not to mention weight savings and availability of high pressure tires. Handlebars are an off the shelf alloy touring model that wrap around my knees and allow a comfortable aero position. The drivetrain used is a Shimano 14 speed with thumbshifters and the stoppers are Dia Compe and ACS.

After some initial debugging and a couple of fork swaps, I had the bike handling pretty well. In the process, I learned the value of proper front end trail (critical on any bike—especially on a SWB). The ride is not perfect, but my initial design goal was reached .....more speed! My cycling partners ride racing bikes, and most rides include a few downhill coasting races. With this bike, I will usually slip away if they don't stay in a full tuck!

### PROS

Some of the positive aspect of my homebuilt (dubbed "2-Foot Ahead") are perfect 50/50 weight distribution made possible partly by my very long inseam (My LWB was about 80/20 causing easy washout of the front wheel). Another benefit is that heel overlap with the front wheel is very minimal. Portability and agility are far better than a LWB. Best of all is the greatly improved hill climbing. This is achieved by the higher bottom bracket position. The bending the rider at the hips (not laying back) seems to empower more muscles (i.e. hamstring and gluteus), than my LWB recumbent did. With this bike, I can climb more

comfortably at a lower cadence. This was not apparent until I went back and forth between the two recumbent types.

### CONS

Steering input is not quite as "mindless" as my LWB. More attention is required to track the bike. Some may say that this is the nature of the beast on a SWB, but I think more refinement would help. Seat height and bottom bracket (B.B.) height could be lower; the drivetrain and wheel size dictated the high seat and B.B. Prototype #2 may use a 26" or 700c rear wheel and no intermediate drive. This would allow a lower chain line and therefore, a lower seat and B.B. The larger rear wheel will also improve ride quality. At 33 lbs., the bike is no featherweight, but it does handle my 205 lb. weight with little frame flex.

In summary, the SWB holds the most promise for my needs: comfort AND speed, portability and sports car handling that most LWB models cannot achieve.

Special thanks to Gaylord Hill (CycloPedia), Don Barry (Infinity), Steve Hansel (Linear) and several others who helped me with good information and advice.



## CBS MINI-SERIES FEATURES ALTERNATIVE VEHICLES

By Mark Murphy

An upcoming CBS Mini-Series: "THE FIRE NEXT TIME" will debut this winter and feature a variety of alternative vehicles including HPVs, recumbent bicycles, Electrathon racers and cyclecars.

Craig T. Nelson (from the TV series "COACH") stars with Bonnie Bedelia ("Heart Like a Wheel") and Justin Whalin in the four hour environmental drama set in the year 2017, just twenty-five years in the future.

The film creates a vision of the earth in the throes of continued global warming, ozone depletion and environmental neglect.

The plot follows a family devastated by the collapse of the fishing industry in Louisiana,

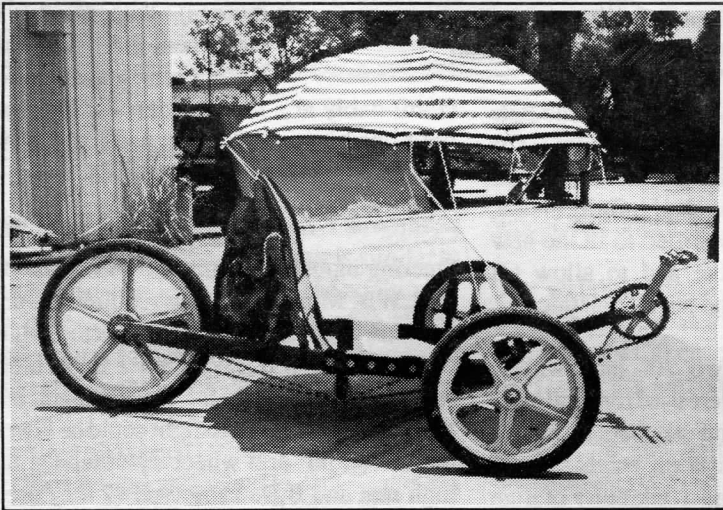
the result of pollution and salt water encroachment into the Bayous caused by the melting of the ice caps.

Global warming creates climatic instability and massive storms that destroy the Gulf Coast forcing the survivors to flee North. Along the way they encounter capitalists getting rich on crop failure speculation, neo-hippies worshipping the Earth Mother, eco-survivalists extorting money for safety, and utopian towns with closed borders.

Throughout the film alternative vehicles are used to project an image of extreme rationing and economy. The

vehicles lend credibility and realism to this "wake up call" environmental drama and help the public visualize the future if we abdicate our responsibility to heal the environment today.

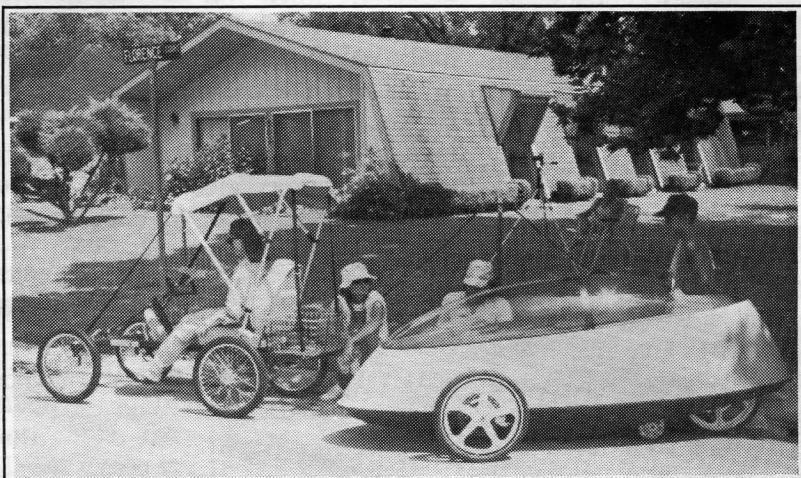
ED. NOTE: Alternative vehicles are needed for future film productions. If you are interested in providing a vehicle for film work we will include it in an Environmental Vehicle Directory for movie and television productions. Send a clear photo and description to: BLUE SKY DESIGN, PO Box 2014, Thousand Oaks, CA. 91358-0912.



A child's HPV ready for school protected from the solar oven with an umbrella  
(Photo courtesy of Mark Murphy)



A Refugee HPV loaded with belongings and protected with a UVB shield  
(Photo courtesy of Mark Murphy)



A Roades car and Electrathon Racer on stand by for filming  
(Photo courtesy of Mark Murphy)



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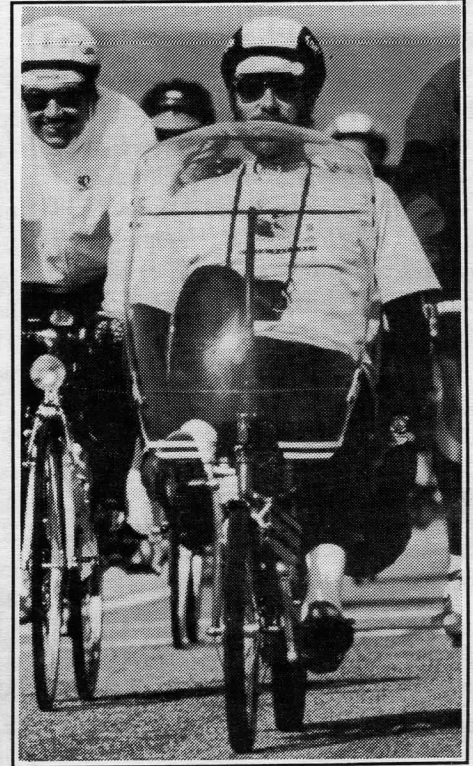
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"Danny Ray  
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equiped Ryan  
Vanguard  
Recumbent"



## RECUMBENT RIDER GROUPS

(please send an S.A.S.E. with any correspondence)

**WASHINGTON DC AREA: W.H.I.R.L.**  
(Washington's Happily Independant Recumbent Lovers) The brotherhood meets at the Viers Mill Rec. Center parking lot on Saturday Mornings around 8am This is a model rider group with No rules, No by-laws and No meetings, "Just a bunch of guys who ride cool bicycles together," says non-club non-organizer Vic Sussman. Word of Warning: No Lycra-Heads allowed. For more info contact: Vic Sussman at (301)897-5959 or Allan Pollock at (202)363-2244.

**SOUTHBAY RECUMBENT RIDERS**  
(Los Angeles area) Riders meet at Burton Chase Park every third Sunday of the month at 10-11am. Contact :Tom Howe, 10634 Valparaiso #23, Los Angeles, CA 90034. Ph# (310) 838-8634 or (310) 376-8081.

**OREGON HUMAN POWERED VEHICLES** (Portland area) Meetings, Muster's and a bimonthly newsletter. Contact: Jake Jacobsen (503)644-7038 or Rick Pope (503)244-0908.

**MICHIGAN HPV ASSOC.** Meetings, race events and a quarterly newsletter .Contact: Gaylord Hill (517)263-5803.

**HUMAN POWERED VEHICLES OF SOUTHERN ONTARIO** c/o Dennis Taves, 14 Croft St., Toronto, Ontario, Canada, M5S 2N8. Phone # (416)964-7857.

**STREAMLINER RACING ASSOC.** (Washington/ Oregon areas) Several recumbent race events. Contact: Stewart Delaire (206)692-9738. Membership \$10 @ yr.

**SEATTLE AREA RECUMBENT RIDERS:** (South King County) New rider group forming. We are looking for leaders and keepers of the mailing/ phone call list. Robert (206)630-7200.

**CHICAGO AREA RECUMBENT RIDERS:** New rider group forming. Contact: Leonard Brunkalla, 260 So. Channing #1, Elgin, ILL. 60120. Ph.#(708)742-5818

## RBCA CALENDAR

**SEPTEMBER 20-22, 1992**  
**INTERBIKE TRADE SHOW:** Anaheim, CA.

**OCTOBER 10, 1992;**  
**SEATTLE RECUMBENT RIDER GROUP:** Fall Meeting to be held on Saturday in Kent, Wa. 1:00 P.M. We will discuss our rider-group progress, the speed championships and have an open forum recumbent discussion. See the Traylor FWD RCM project bike. Bring your project-bike, new recumbent accessory, photo's and HPV scrapbooks. No ride scheduled. Call for directions and the infamous Bob Bryant Map. Everyone please bring some refreshments. We will offer beverages R.S.V.P. (206)630-7200. This meeting will be very informal.

**OCTOBER 18, 1992**  
**LOS PORTALAS WHITTIER GRAND PRIX:** Criterium/ USCF racing to start at 7am. HPV Racing to start in the early afternoon. Prize money and prizes, details pending. An HPV display will also take place, \$15 dollar entry fee, for more info call

## RECUMBENT NEWS

Alan Zolnekoff (310)693-3115, Whittier California.

## NOVEMBER 14TH 1992

**SOUTHERN R.B.C.A. FUN RIDE AND GET TOGETHER:** Ormand Beach, 9:00 a.m. @ Intersection of Hwy 40 East & Hwy A1A at the shopping center. (Looking at my map this appears to be about 5 miles N. of Daytona). Info for lodging/camping etc., drop a postcard with your Name & address to: Larry, 3069 Wilkinson Rd., Mt. Olive Al. 35117-9506

## FEBRUARY 1993

## SEATTLE BIKE EXPO

## MARCH 1993

## 6TH ANNUAL PORTLAND BICYCLE SHOW

## JULY 1993

**DAVINCI DAYS:** mark your calendar's early for the Northwest's premiere recumbent gathering.

## SEPTEMBER 1993

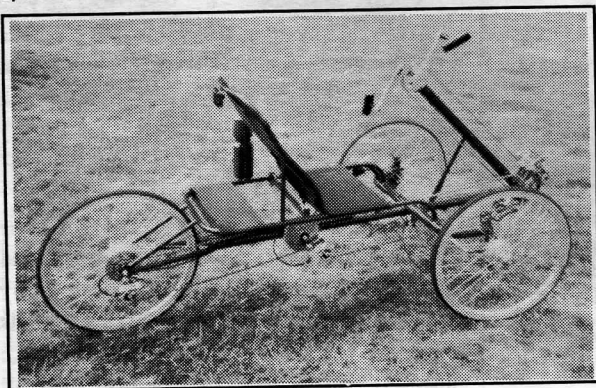
1993 IHPSC-MINNEAPOLIS, MN. Tentative, exact dates yet to be announced.

## 1993 RCM/ R.B.C.A. EVENTS:

We would like to form an advisory committee on how, where and when to have some recumbent type get togethers in the upcoming new year. Some ideas kicked around were: An RCM get together during da Vinci Days in Corvallis Oregon, and/ or something during IHPSC '93 in Minnesota. Other ideas that have crossed our minds were organized recumbent tours in Hawaii, California Wine Country or wherever, through a bike tour operator, Carribean Cruise with the RCM Crew and your recumbent bike? These are just ideas to consider. If you would like to get involved write to RCM: c/o RCM CREW SOCIAL DIRECTOR.

**A RECUMBENT IN TREK'S FUTURE? PERHAPS:** In the last issue of RCM we mentioned a major bike manufacturer who was possibly experimenting with recumbents. We are not the only ones who have heard this rumor. A new industry magazine, "Bicycle Retailer" ran that headline under their "Industry News Briefs" section. The article went on to say that Trek's John Platt elicited this response: "We have a number of engineers working on a lot of different ideas—including recumbents." And, he added, "We are not producing one next year. Beyond that it's a crystal ball question. All I can say is, we are keeping our eyes and ears open to what people want." The RCM CREW has heard rumors to this effect from several different parties. What will it be like? Well, our crystal ball says that it could be a LWB with upright handlebars in the \$800 range. When? Sometime in 1994-1995; however, its all speculation at this point. **INFINITY:** Ace Tool is getting ready for its new 1993 Infinity bike. Several upgrades are planned. We heard whisperings of 21 speeds and what..... Index shifting, on an Infinity? Don Barry and his Ace team have been retrogrouches when it comes to index shifting. Don compares it to biopace chainrings. **RYAN VANGUARD:** The RCM CREW would like to welcome Karl Ryan to the Northwest. Karl is Dick's son, and an excellent addition to the business. Ryan has a neat new logo for the headtube with the initials "RR" overlapping. Ryan is also offering a limited number of black Ryans at no extra charge for the paint upgrade. The new Ryan seat pad is also available. It is a Thermarest pad that in a nylon cover and velcro'd to the seat. This really adds to the already superior comfort of Ryan bicycles. Last but not least, Ryan will now ship your new bike nearly fully assembled anywhere in the continental USA for \$100 (\$70 more than normal UPS shipping). For more information, call Ryan at (503)485-6674. **LAI D BACK NOTES:** We finally saw the new LB-2000. A beautiful blue frame passed through the RCM offices. This is definitely the best LB we've ever built. LB fans, get in line and save your pocket change, as the "2000" is spendy. You saw the ad before we told you about the bike, Richard Rau's **PEDALCRAFT QUADRAPED** is a three-wheeled trike with both hand and foot power. It has an ingenious drivetrain with Sachs drum brakes that you activate by pedaling or handcranking backwards. Steering is done by moving the hand-crank unit from side to side. These trikes are beautifully crafted with many custom fabricated parts in Richard's Philomath Oregon shop. For more information, call Pedalcraft at: (503)752-5035. These guys also build a tandem version called the "Kahoots" which has to be seen to be believed. **THE REBIKE PHENOMENON:** Working 100+ hours per week and sleeping on the shop couch must be standard procedure for Kathie Skewis and the ReBike folks. For such a new manufacturer, the name ReBike seems to be permanently etched in stone. After write-ups in RCM, US News & World Report, American Bicyclist and many papers across the country, the cute little neon semi-recumbents have become so popular that ReBike has sold out the rest of the year's supply already. This means that if you want one, there is a waiting list for late October of this year. The RCM CREW guesses that for 1992, ReBike will at the very least double recumbent sales figures over 1991 numbers. In a late note, we are happy to report that our friends at ReBike survived Hurricane Andrew with no damage or injuries. **THE 1993 REBIKE 707:** New for '93 are a move to a 6" crank, the front chainring has been increased to 48 teeth, the "707" will be a seven speed with upgraded SunTour components and new box-section rims. For '93 ReBikes will carry the "Made in Boca Raton, Florida, USA" label. To order your new 707, call Kathie at ReBike (407)750-1304. Has anyone heard or seen of a new recumbent called the "EVOS SESSIO," supposedly it is state of the art.... we've heard that one before.....

**RECUMBENT FRONT TIRE ALERT:** That sought after recumbent front tire, the Haro 1.5 (65 psi) that was unavailable earlier this year is now available. If you have a Ryan, DH, Presto or Tour Easy delivered earlier this year, call your manufacturer or dealer to order a pair of Haro's. Prices are around \$17 each. If you are after some IRC Roadlite EX 20" X 1-1/8" tires, they are still made. Have your recumbent dealer or manufacturer give Joe at J&B Pacific in Kent, WA a call (sorry, wholesale only). **UPRIGHT TECHNOLOGY:** The Yankee Bicycle: The Yankee Company has recently been sold to NordicTrack. This ingenious upright with its innovative nine-speed crankset transmission and kevlar belt rear brake has been the target of many home-recumbent builder. For more information call 1-800-858-BIKE.



Richard Rau's Quadraped



**RECUMBENT DEALER/  
MANUFACTURER LISTINGS:****WESTERN USA**

**PEOPLE MOVERS:** We specialize in Ryan, Linear, Rans, Infinity, Laid Back & A.T.P. Recumbent Bicycles, Land Rowers, Chainless Bicycles, Gravity Formula I Cars. 811 So. Tustin Ave. (At 22 Fwy. in Orange, CA.) Ph.#(714)633-3663. A full service shop.

**EASTERN USA**

**MORGAN'S CYCLE & FITNESS:** We are a full service bike shop and we specialize in Ryan, ReBike, Infinity, Linear and Rans recumbents 2513 Sunset Ave., Rocky Mount, N.C. 27804, Contact: Steve Morgan Ph.#(919)443-4480. 10am-7pm M-F, 10am-5:30pm Sat.

**WANTED: RECUMBENTS**

**WANTED: USED RECUMBENTS,** we buy used Ryans, Tour Easy's and what have you. Trade-ins accepted. Call us first. Millennium Recumbent Cycles (206)630-7200.

**RECUMBENT PARTS:**

**FOR SALE: Giro "Air Attack" model helmet.** Extremely light. Comfortable and cool. Neon yellow / black. Size XS. Scott McMahon (415)856-2254, or write 2250 St. Francis, Palo Alto, CA 94303-3133, or personal letter on GENie to S.MCMAHON7.

**NEW RECUMBENTS**

**DON'T BUY YOUR RECUMBENT SIGHT UNSEEN! "ELLIPTIC"**—Your San Francisco Bay area dealer can help. Our years of experience with recumbents will help you select the perfect bike. New and used bikes and custom modifications are available. Call for a demo or rental. Elliptic; Stephen des Jardins, Ph.#(415) 591-3737. (CA)

**INTROSPECT CYCLE: Your Northern California recumbent dealer.** We offer ReBike, Infinity, Linear, Ryan, A.T.P. R-20, Trice and others. Recumbent accessories, custom modifications. Specials: 1-New Red Trice three wheeler, \$1300 + shipping. We also have a Kingcycle available for immediate delivery. Call B.J. Ph.#(916)481-2906.

**CLASSIFIED ADS**

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**FOR SALE: Ryan Vanguard Recumbent Bicycles.** Cosmetically flawed factory seconds, discounted prices, limited availability. Call now: Ryan Recumbents, 3910 Stewart Rd. Unit F, Eugene, OR. 97402. Ph.#(503)485-6674.

**MILLENNIUM RECUMBENT CYCLE:** Your mail order recumbent source! New Ryan Vanguards \$1249. New '92-1/2 21 speed Linears from \$899, used from \$699. New Sakae 42/52 double crankset \$17 + \$3 shipping, New Haro 1.5 65 psi slicks \$16 + \$4 shipping and 8-Sound Electric Death-Ray & Machine Gun horn \$20 + \$4 shipping. '92 Catalog \$3. Millennium Cycles, 17650-B6-140th Ave. SE, Ste. 341, Renton, WA 98058. Ph.#(206)630-7200. Mail order only.

**USED RECUMBENTS**

**FOR SALE: 1991 GOLD RUSH REPLICAEASY RACER.** RCM test bike, large size, 500 miles, Dura Ace Clipless Pedals, Uni Disc, two front wheels (1-aero 20"/ 1-Phil Wood touring). Blue Lycra body stocking with Super Zipper Fairing included. Sam Kleinman (818)549-9806. (CA)

**FOR SALE: Brike Model 2000,** brand new-assembled-but never used. Adult three wheel recumbent trike. Fits riders 5'2"-6'5." Cost \$250+shipping, Sell \$175.+ shipping charge. Write: Brian Chase, RR#1, Box 2080, NewFane, VT, 05345 or phone#(802)365-7929.

**FOR SALE: '91 TURNER LAID BACK SWB.** Large size frame for taller riders. Completely built with Q.R., SunTour indexed drivetrain, 13-31 6 spd. freewheel, Sugino GS 42 X 52 crank. \$550 + Shipping. Call Jim Thomas (716)621-8566.

**FOR SALE: Lightning P-38 Recumbent.** 21 speed, Shimano Deore equipped, small size frame, rack, pump, rack, disc wheel covers. Excellent cond. \$850. Russell Wagner, 7105 W. Capitol Dr., Milwaukee, WI. 53216-2051. (WI)

**FOR SALE: Lightning P-38,** less than 100 miles. Moulton high performance front wheel, Mavic rear wheel with aero wheel covers, custom made Campagnolo 24/42/54 crankset, aero panniers and many other nice features. Frame size is medium and color is blue. \$1200. OBO. Call Hal Ruzal, Days Ph.#(203)624-0342. Eve. Ph.# (203)397-9219. (CT)

**FOR SALE: LINEAR RECUMBENT.** 18 speed with index shifting, rack, bottle cage, Vetta II computer. Under seat steering and optional tiller handlebars with shift levers and all cables for conversion. New Nov. '91. Gold in color. All for \$700. Write or call nights or weekends: Richard Elsea, 2100 - W. 100th Ave., #430, Denver, CO 80221 (CO)

**FOR SALE: EX-HPV RACER:** Former IHPVA Indy contender constructed of chromoly, spaceframe. Cyclecar layout perfect for restoration or electric conversion. (Aerocouple body shell will fit) includes drum brakes. Needs seat and TLC. This is an original Aerocoupe Cyclecar circa 1983. Own a classic. \$300. Mark Murphy (805)498-0958

**FOR SALE: Trice trike.** Delivered new in January '91, 400 orig. 1-owner miles, rack, fenders, computer and white paint. Won't last, \$999 + shipping. Millennium Cycles (206)630-7200 (WA).

**FOR SALE: '91 TOUR EASY,** 18 speed, small size frame (fits up to 5'8"), red, Zipper Fairing, rack, pump, Used 3 times. Like brand new. \$1200. (813) 637-9382. (FL)

**MOULTON RECUMBENT:** One of a kind hybrid, modification is one year old, has full suspension, 35 gears, adjustable seat, folds (the longest piece is 27"). This bicycle performed flawlessly on a recent European tour. Asking \$1800 OBO. Call Don Latarski Ph.#(503)343-8184 (OR). or write: PO Box 10232, Eugene, OR. 97440.

**FOR SALE: '91 PRESTO TOUR #68,** Isolator front hub, Phil Wood rear hub, rear disc brake, Cateye Micro computer, underseat bottle cages, Look pedals, rear flashing light, bell, mirror. Like New \$1750. Presto Fairing \$200. Quentin Robley, 13001-47th St., Clear Lake, MN. 55319. Ph# (612)743-2355 (MN)

**1992 RECUMBENT DEMO CLOSEOUT:** Linear 45" silver with Blackburn rack. 20 miles. New in June. \$879 + shipping. ReBike, metallic pink, dual mirrors and flag. Electric "Death Ray" horn. Available now \$429. Ask about our special Fall prices on new '92 Ryans & Linears. Call (206)630-7200. (WA)

## BOOKS AND PUBLICATIONS

**Cycle America Regional Directory for the Central Coast of California:** featuring eight pages of color, fold-out bike road maps and places to eat, sleep, shop and recreate from San Jose to Santa Barbara. Special section on recumbents! Help build a TransAmerica Bicycle Greenbelt. Pocket size. Only \$7.95 to Cycle America, 147-River Street South, Suite 222, Santa Cruz, CA 95060. (408)426-7702.

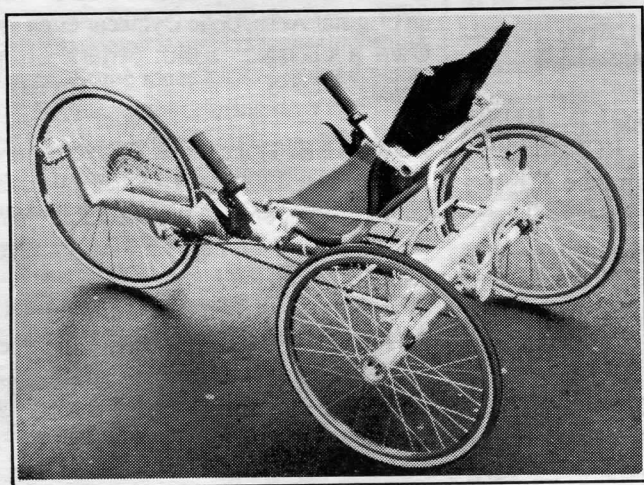
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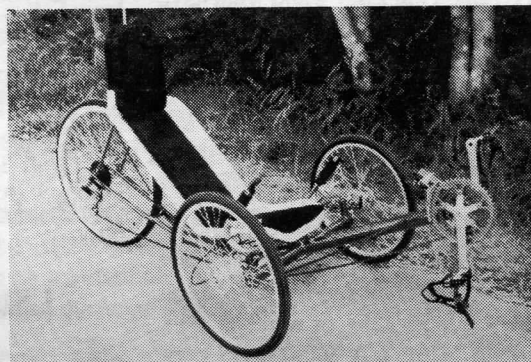
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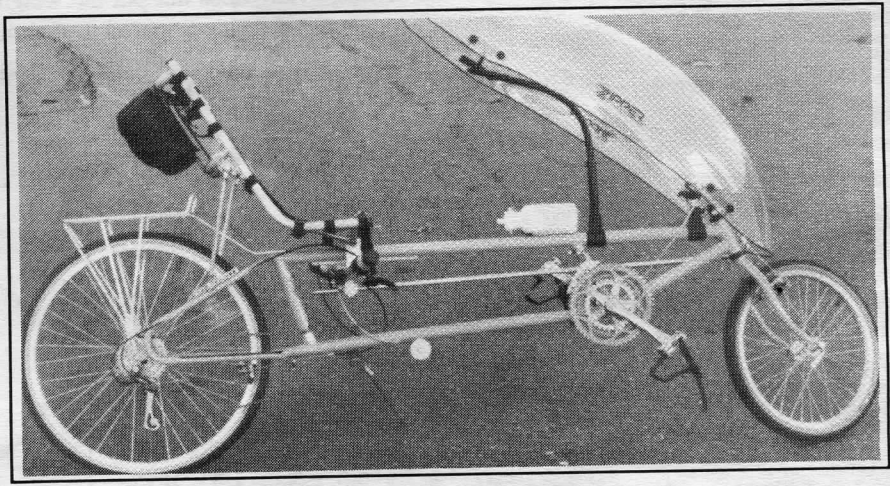
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## UPRIGHT TECHNOLOGY: THE YANKEE BICYCLE

by Robert J. Bryant

*"Its not a recumbent, but it could be the most comfortable, easy to ride upright bicycle available today." — R.J.B.*

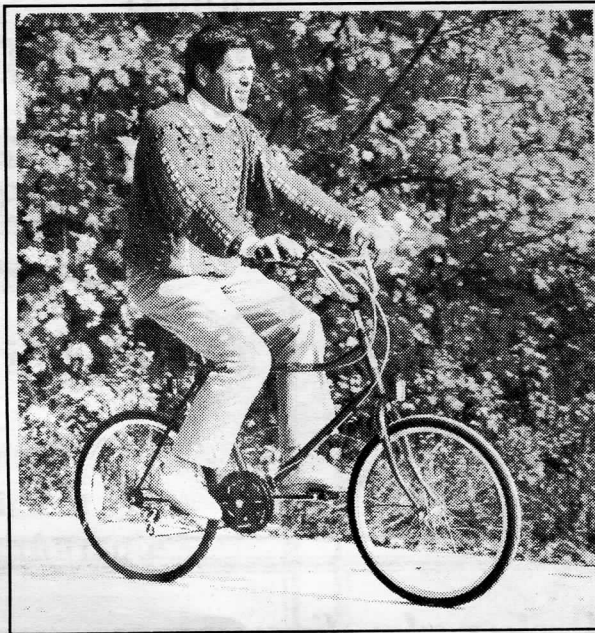
If you read Popular Science Magazine, most likely have seen the Yankee Bicycle. The Last year, the Yankee became the Grand Price Winner of Popular Sciences "BEST OF WHAT'S NEW FOR '91." We thought some of these systems would be adaptable to recumbent use, so we did some investigation on the Yankee. Here is what we found:

This bicycle is overflowing with innovation. Designer Royce Husted has been working on the Yankee's various systems for over 12 years. This bike has been awarded 24 U.S. patents and is attempting to take the bicycle market by storm. No joke! In the three months from the time we got our original brochure, until the day I called Yankee, they had sold 1000 bikes. This does not sound like many bikes being that there are 90 million bicycle users. When compared to recumbents this 1000 bikes is almost the whole USA market. Husted calls the Yankee "the anybody bike," or a "BMX bike for adults."

So what is so special about it? The two main features are a single "rim band brake" and a Radial Gear nine-speed transmission. Yankee claims that this brake works three times better than all other bicycle brakes, and eight times better in wet conditions. The brake consists of a stainless steel cable jacketed by a woven DuPont Kevlar cord which tightens in a groove along side of the rim. The Yankee brake eliminates 20 parts and at least five adjustments. The Rim Band Brake has only two basic parts and never needs adjustment. We were concerned if the Rim brake would add friction when not in use, we were told that it does not. We know of at least one recumbent manufacturer who has contacted Yankee about using this brake.

The Radial Gear transmission is a nine-speed all at the crankset transmission. The front 6-segmented sprocket mechanism expands and contracts which accomplishes gear changes quickly and positively. A false derailleur/ spring tensioner keeps the chain

taught. Popular Science called it "...superbly effective nine-speed shifter which eliminates surprise neutrals. It's the closest thing yet to shifting gears without fears." All nine gears are shifted by one lever. For higher gears, you shift and pedal forward. For lower gears, you pedal backward. You can go through all nine gears in one half revolution of the pedals. You can even downshift at a stop for easy starts.



The Yankee Bicycle

Yankee designer Husted commented to us that the Radial Gear may not work well on a recumbent. I questioned this and found that his concern was the vertical pedaling force on an upright versus the vertical force on a recumbent. We brought up the point that a recumbent rider does not put the weighted force on a crankset compared to that of an upright bike rider. He then said that it may work fine. Also, the gearing ranges are purely recreational. There is a choice of two, 41-82 or 36-72. A motivated HPV experimenter most likely could find a way to widen the gear ranges.

The wheels are 24" with sealed bearing aluminum hubs, aluminum rims, stainless spokes, quick release front wheel and a smooth 24" X 1.5" tires. The wheels and tires would be

perfect for HPV/ recumbent use. Other upright comforts of the Yankee include upright completely adjustable handlebars, a sprung Lycra/ gel seat and a unique frame design that allows for 5" of extra crotch clearance.

The entire bike weighs 30 pounds. The frame is hi-ten (mild) steel and the fork and handlebars are chro-Moly. The Yankee is not ultra-light by any stretch of the imagination. But when compared to the market Yankee is after, it is perfectly adequate. A higher performance version has been mentioned. Popular Science's original article in the July 1985 issue mentioned a 15 speed version.

**HPV APPLICATIONS:** First of all, this bike makes sense for any rider as a low-cost commuter, vacation take-a-long or shopping bike. If you want the drive-train and Rim Band brake, get ready to order the entire bike. Designer Husted mentioned that he has heard from far to many motivated HPV'ers trying to get parts. He was not overly enthusiastic about this potential market, as he is interested in selling ready to ride bikes. In his words, if you want these systems for your recumbent of HPV, you will have to order the complete Yankee. This is nothing new to HPV home-builders/designers as torching upright bikes is common practice. The news is not all

bad, the Yankee's '92 list price is \$369. + \$39 shipping. This is for a ready to ride bicycle that can be assembled by most anyone in ten minutes using tools that are supplied by Yankee.

The Yankee Bicycle by NordicTrack  
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The Yankee Bicycle



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